

CLAIMS

1. An electric cable (1) comprising at least one conductor (2) and at least one insulating layer (4), wherein said insulating layer comprises a substantially lead-free polymer composition comprising as base polymer material an elastomer terpolymer having the following composition:

- a) 50-90 moles percent of ethylene;
- b) 10-50 moles percent of an α -olefin;
- c) 0.16-5 moles percent of 5-vinyl-2-norbornene;

the sum of the moles percent of a), b), c) being 100, said terpolymer having a branching index of less than or equal to 0.5 and a molecular weight distribution index M_w/M_n of greater than or equal to 6.

2. A cable as claimed in claim 1, wherein the terpolymer has a Mooney viscosity [ML (1+4 at 125°C)] of 10-80.

3. A cable as claimed in claim 1 or 2, wherein the terpolymer has a branching index of less than or equal to 0.4.

4. A cable as claimed in any one of the preceding claims, wherein the polymer composition has a zinc oxide content of less than 10 phr.

5. A cable as claimed in claim 4, wherein the zinc oxide content varies between 3 and 8 phr.

6. A cable as claimed in any one of the preceding claims, wherein the polymer composition comprises an elastomer mixture comprising the elastomer terpolymer as defined in claim 1, mixed with at least one other polymer in a quantity of less than or equal to 30 phr of the mixture and selected from the group consisting of polyolefins, thermoplastic propylene/ethylene copolymers, ethylene/propylene or ethylene/propylene/diene elastomer

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copolymers and the like, or the mixtures thereof.

7. A cable as claimed in claim 6, wherein the other polymer is selected from low-density polyethylene, low-density linear polyethylene, and very low density polyethylene.

8. A cable as claimed in any one of the preceding claims, wherein the olefin is of formula $\text{CH}_2=\text{CH}-\text{R}$, where R is a linear or branched alkyl containing 2 to 10 carbon atoms.

9. A cable as claimed in claim 8, wherein the α -olefin is selected from the group consisting of propylene, 1-butene, 1-pentene, 1,4-methyl-1-pentene, 1-hexene, 1-octene, 1-decene, 1-dodecene and the combinations thereof.

10. A cable as claimed in claim 8 or 9, wherein the α -olefin is propylene.

11. A cable as claimed in any one of the preceding claims, comprising at least one layer (3, 5) with semiconductive properties which includes a polymer composition as claimed in any one of the preceding claims, in which a conductive filler is dispersed.

12. A substantially lead-free polymer composition comprising as base polymer material an elastomer terpolymer having the following composition:

a) 50-90 moles percent of ethylene;

b) 10-50 moles percent of an α -olefin;

c) 0.16-5 moles percent of 5-vinyl-2-norbornene;

the sum of the moles percent of a), b), c) being 100, said terpolymer having a branching index of less than or equal to 0.5 and a molecular weight distribution index M_w/M_n of greater than or equal to 6.

13. A composition as claimed in claim 12, wherein the terpolymer has a Mooney viscosity [ML (1+4 at 125°C)] of 10-

80.

14. A composition as claimed in claim 12 or 13, wherein the terpolymer has a branching index of less than or equal to 0.4.

5 15. A composition as claimed in any one of claims 12 to 14, comprising zinc oxide in a quantity of less than 10 phr.

16. A composition as claimed in claim 15, wherein the zinc oxide content varies between 3 and 8 phr.

10 17. A composition as claimed in any one of claims 12 to 14, comprising an elastomer mixture comprising the elastomer terpolymer as defined in claim 1, mixed with at least one other polymer in a quantity of less than or equal to 30 phr of the mixture and selected from the group consisting of polyolefins, thermoplastic propylene/ethylene copolymers, ethylene/propylene or ethylene/propylene/diene elastomer copolymers and the like, or the mixtures thereof.

15 18. A composition as claimed in claim 17, wherein the other polymer is selected from low-density polyethylene, low-density linear polyethylene, and very low density polyethylene.

20 19. A composition as claimed in any one of claims 12 to 18, wherein the olefin is of formula $\text{CH}_2=\text{CH}-\text{R}$, where R is a linear or branched alkyl containing 2 to 10 carbon atoms.

25 20. A composition as claimed in claim 19, wherein the α -olefin is selected from the group consisting of propylene, 1-butene, 1-pentene, 1,4-methyl-1-pentene, 1-hexene, 1-octene, 1-decene, 1-dodecene and the combinations thereof.

21. A composition as claimed in any one of claims 12 to 20, wherein the α -olefin is propylene.

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